

## REMARKS

### **1. Introduction**

Applicants appreciate the Examiner's thorough examination evidenced by the Office Action and the finding that Claims 7, 9, 13, 35, and 36 contain patentable subject matter and would be allowable if amended into independent form. Applicants have carefully examined the cited references and have not amended Claims 7, 9, 13, 35, and 36 into independent form because they submit that the claims as presented herein are patentable for at least the reasons explained below.

### **2. Status of the Claims:**

Previously presented Claims 1-6, 8, 10-12, 14-29, and 31-34 were rejected as being unpatentable over U.S. Pat. No. 5,301,360 to Goldberg (hereinafter Goldberg).

Previously presented Claims 1-3, 10-12, 14, 16-25, and 30-33 were rejected as being unpatentable over U.S. Pat. No. 6,725,061 to Hutchison, IV et al (hereinafter Hutchison).

Claims 7, 9, 13, 35, and 36 have been determined by the Office Action to contain patentable subject matter and would be allowable if amended into independent form.

### **3. Independent Claims 1 and 25 are Patentable Over Goldberg:**

Claims 1 and 25 both recite that to identify a connected unit, a voltage pulse is generated *through a pin* and a voltage is measured *on the same pin* to measure an affect of a load in the unit on the voltage pulse. This feature of Claims 1 and 25 enables identification of communication devices using voltage pulse generation and measurement through a single pin connection thereto. This feature of Claims 1 and 25 may enable a reduction in the number of interface pins that required in the pin interface.

Although Goldberg is directed to identifying a communication device, its disclosure require the use of "at least two terminals 22 and 23 for connecting to an ... external device" for identification. (Goldberg, Figure 1 and col. 2, lines 4-7 and 21-45). Goldberg does not describe or suggest that a same pin can be used for both voltage pulse generation to another device and for measuring the response of the voltage pulse. Moreover, Applicants submit that Goldberg teaches away from using the same terminal for both functions by its teaching that the two terminals 22 and 23 "are required" for operation. (Goldberg, col. 2, lines 10-11). Goldberg therefore teaches that the use of at least two terminals is an essential feature in the operation of the circuit.

Accordingly, Applicants submit that Claims 1 and 25 are patentable over Goldberg.

**4. Independent Claims 1 and 25 are Patentable Over Hutchison:**

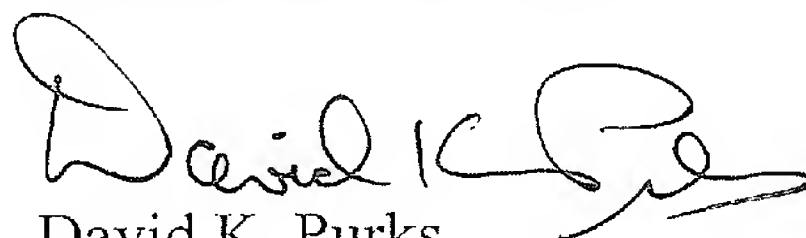
Applicants submit that Hutchison's disclosure is similar to Goldberg's in its failure to teach or suggest the use of a same pin for both voltage pulse generation to another device and for measuring the response of the voltage pulse. Hutchison discloses that two different lines PCM-DIN (PCM-Data-In) and GPIO (General Purpose Input/Output) must be used to identify a communication device. For example, Hutchison shows in Fig. 3 and describes in col. 5, line 38 to col. 6, line 29 that a device 201 is identified as one of several defined types in response to a combination of a binary status of a "high logic level on the PCM DIN" and a binary status of the "external power" line. Hutchison does not describe or suggest how the same line could be used for both voltage pulse generation to another device and for measuring the response of the voltage pulse. Moreover, Applicants submit that attempting such modification of Hutchison's teachings would render Hutchison's circuit unable to identify the device 201.

Accordingly, Applicants submit that Claims 1 and 25 are patentable over Hutchison.

**5. Conclusion:**

In view of the above amendments and remarks, Applicants respectfully request withdrawal of all objections and rejections and the allowance of all claims in due course. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is encouraged to contact the undersigned by telephone at (919) 854-1400.

Respectfully submitted,



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